

**ARCHAEOLOGICAL IMPACT ASSESSMENT  
OF THE PROPOSED EXTENSION OF THREE BORROW  
PITS IN THE ROAD RESERVE (NODEWEE 141) AND  
MERTENHOF 586, CEDERBERG,  
CLANWILLIAM DISTRICT, WESTERN CAPE**

(Assessment conducted under Section 38 (8) of the National Heritage Resources Act as part  
of a Heritage Impact Assessment)

Prepared for:

**Vidamemoria Heritage Consultants**  
Att: Ms Quahnita Samie  
E-mail: [quahnita@vidamemoria.co.za](mailto:quahnita@vidamemoria.co.za)

On behalf of:

Nadeson Consulting Services

Prepared by:  
Madelon Tusenius  
Natura Viva cc  
PO Box 12410  
Mill Street, Cape Town  
8010  
Phone: (021) 462 3622  
E-mail: [naturaviva@universe.co.za](mailto:naturaviva@universe.co.za)

**AUGUST 2012**

## EXECUTIVE SUMMARY

Natura Viva cc was appointed by Vidamemoria Heritage Consultants on behalf of Nadeson Consulting Services to undertake an Archaeological Impact Assessment (AIA) for the proposed extension of three existing borrow pits, DR2262/7.48/L/20 (Vidamemoria pit no. 107), DR2262/11.13/L/100 (Vidamemoria pit no. 108) and DR2262/16.42/L/50 (Vidamemoria pit no. 109), in and near the Biedouw Valley of the north-eastern Cederberg. Clanwilliam lies approximately 31 km to the east and Wuppertal roughly between 7 and 13.5 km south of the pit extensions. Material excavated from the proposed extensions will be used for the re-gravelling of the DR2262. All three sites will be rehabilitated and re-vegetated once the material has been removed.

This study forms part of the Heritage Impact Assessment triggered by the development. The brief for the study was a field visit and short report identifying and assessing archaeological resources and any impact on them, an assessment of significance and recommendations regarding any mitigation required.

The field assessment for the three proposed extensions was conducted on foot on 14 August 2012.

Pit 107 is located at an existing borrow pit on a hillside within the road reserve, just to the north of the Uitkyk Pass which descends into the Biedouw Valley from the north.

Pit 108 is situated next to an existing pit on private land along the DR2262 in the Biedouw Valley.

Pit 109 is located at an existing pit on private land along the DR2262 on the stretch between the Biedouw Valley and Wuppertal.

No archaeological remains were observed at any of the proposed extensions even though many archaeological sites, particularly rock art sites, have been recorded in the northern Cederberg. No rocky outcrops were located in the immediate vicinity of the affected areas so there is unlikely to be any direct impact on painting sites if the proposed extensions are developed. The affected sites themselves are thus considered to be of low archaeological heritage significance, although the surrounding area provides a significant context.

No further archaeological studies or mitigation are recommended for these particular pits as there will be no direct impact on archaeological heritage resources at the affected sites.

## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	2
1. INTRODUCTION.....	4
2. LEGAL FRAMEWORK.....	5
3. TERMS OF REFERENCE.....	5
4. STUDY APPROACH.....	5
4.1 Methods.....	5
4.2 Limiting factors.....	5
5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITES.....	5
5.1 Archaeological background.....	5
5.2 Borrow pit DR2262/7.48/L/20 (Vidamemoria pit no. 107 ).....	6
5.3 Borrow pit DR2262/11.13/L/100 (Vidamemoria pit no. 108).....	8
5.4 Borrow pit DR2262/16.42/L/50 (Vidamemoria pit no. 109).....	11
6. SIGNIFICANCE AND RECOMMENDATIONS.....	13
7. REFERENCES.....	14
8. ACKNOWLEDGEMENTS.....	14

## 1. INTRODUCTION

Natura Viva cc was appointed by Vidamemoria Heritage Consultants on behalf of Nadeson Consulting Services to undertake an Archaeological Impact Assessment (AIA) for the proposed extension of three existing borrow pits, DR2262/7.48/L/20 (Vidamemoria pit no. 107), DR2262/11.13/L/100 (Vidamemoria pit no. 108) and DR2262/16.42/L/50 (Vidamemoria pit no. 109), in and near the Biedouw Valley of the north-eastern Cederberg. Clanwilliam lies approximately 31 km to the east and Wuppertal roughly between 7 and 13.5 km south of the pit extensions. Material excavated from the proposed extensions will be used for the re-gravelling of the DR2262. All three sites will be rehabilitated and re-vegetated once the material has been removed.

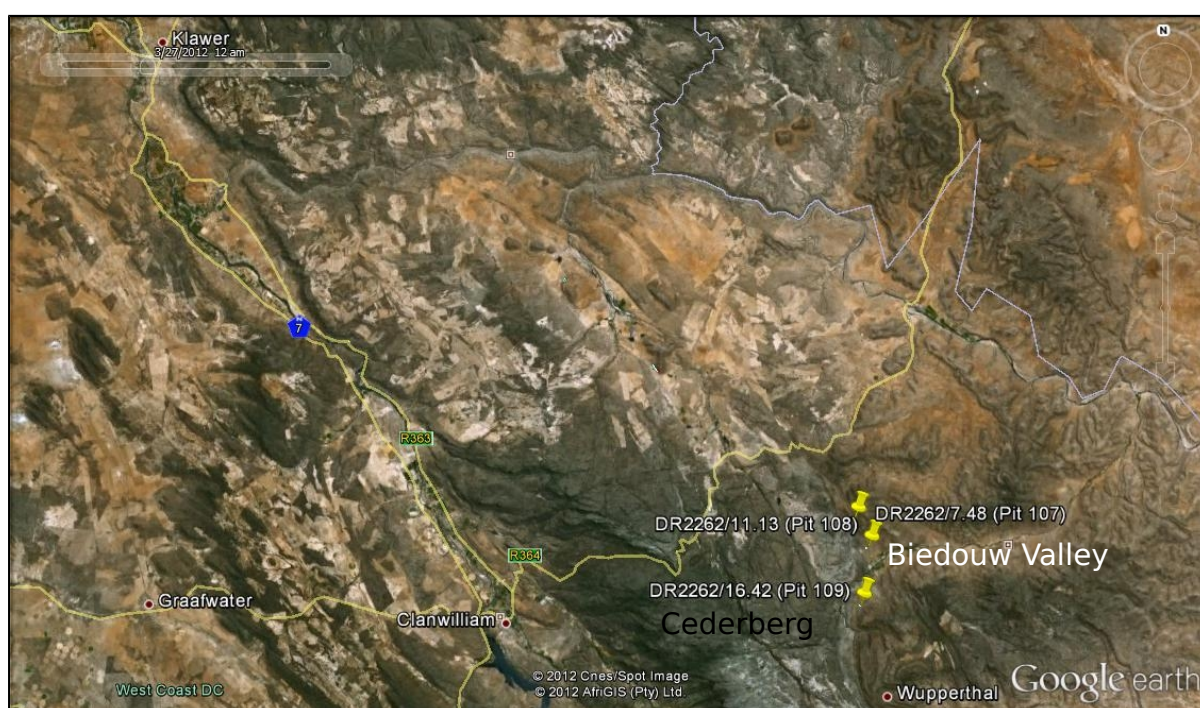


Figure 1: Google earth image showing the location of the proposed extensions of three existing borrow pits DR2262/7.48/L/20 (Vidamemoria pit no. 107), DR2262/11.13/L/100 (Vidamemoria pit no. 108) and DR2262/16.42/L/50 (Vidamemoria pit no. 109) in the Biedouw Valley area, approximately 31 km east of Clanwilliam and between 7 and 13.5 km north of Wuppertal. The relevant 1:50 000 topographical map is 3219AA Pakhuis.

## 2. LEGAL FRAMEWORK

Section 38 of the National Heritage Resources Act (Act 25 of 1999) is triggered by certain types of development, including changes of character to an area exceeding 5 000m<sup>2</sup>, and makes provision for compulsory Heritage Impact Assessments to assess the potential impacts of such proposed developments on heritage resources. In terms of Section 38(1), a Notification of Intent to Develop (NID) form was submitted to Heritage Western Cape (HWC)

by Vidamemoria. Following comment from HWC (case number 111115JB25) an AIA was included amongst the requirements according to Section 38(8) of the Act.

### **3. TERMS OF REFERENCE**

The terms of reference for the AIA stipulated a field visit to locate and map archaeological resources, a short report dealing with the field observations, an assessment regarding the significance of the resources (in the context of other studies in the area) and any impacts on them, as well as recommendations regarding any mitigation required.

### **4. STUDY APPROACH**

#### **4.1 Methods**

Fieldwork for the three pits was undertaken by the author on 14 August 2012. Site plans indicating the affected areas were provided by Nadeson for the Phase 1 survey. Each area was covered on foot and tracks were recorded by a Garmin GPSMAP 62 set on the WGS84 datum (Figures 2, 7 & 11). All three sites were extensively photographed.

#### **4.2 Limiting factors**

Visibility of archaeological remains on the ground varied at the different proposed extensions but was generally good. Where visibility was a problem due to dense vegetation, specific mention is made of it.

### **5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITES**

#### **5.1 Archaeological background:**

The Cederberg, Olifants River Valley and the Doring River area have been a focus of human habitation for well over five hundred thousand years as evidenced by the archaeological remains dating from the Early Stone Age (ESA), Middle Stone Age (MSA), Later Stone Age (LSA) hunter-gatherers and pastoralists and colonial times (Orton & Hart 2005; Halkett et al 1997). Most Stone Age archaeological material observed has been scatters of artefacts lying on the current land surface, usually as a result of erosion or disturbance, but some MSA and many LSA sites are also found in primary context in rock shelters. Rock art is prevalent in the rocky outcrops in the region and that of the northern Cederberg has been the subject of much academic research (e.g. Maggs & Sealy 1983; Manhire 1998; Manhire et al 1983; Yates et al. 1985; Yates & Manhire 1991) and also popular books (e.g. Deacon 1994; Parkington 2003). Areas such as the Sevilla Trail, Leipoldt's Grave and Bushmanskloof, several km to the west and northwest of Pit 107, are well-known to the public as sites where rock paintings can be viewed. An area of rocky outcrop at Klipfonteinrand, running more or less parallel to the DR2662 on the stretch to the northwest of Pit 107, has been the focus of some research by the Dept. of Archaeology, UCT. Rock art has been recorded and several LSA deposits have been excavated in a series of rock shelters on Klipfonteinrand and at De Hangen, a little further to the west (Parkington 1980).

In the Biedouw Valley itself, paintings have been recorded along the Biedouw River on Mertenhof farm. Information provided for the NID application (Manhire & Patrick, quoted in Samie 2011) indicates that Pits 108 and 109 lie approximately 1.5 km away from some of these sites.

## **5.2 Borrow pit DR2262/7.48/L/20 (Vidamemoria pit no. 107)**

**Approximate area:** 9 000m<sup>2</sup>

**Location:** S 32° 7' 3.6" E 19° 10' 28.40"

**Farm name and number:** Road reserve on Nodewee 141

**Environment:** The proposed extension is located at an existing borrow pit on a hillside within the road reserve, just to the north of the Uitkyk Pass which descends into the Biedouw Valley. The affected area is bounded by the gravel DR2262 to the west and a fence to the east (Figure 2). Gravelly colluvium overlies weathered, thinly bedded mudrock with interbedded sandstone in places. Sandstone and mudrock blocks and pieces of varying sizes lie on the gravelly surface of the colluvium. Not much vegetation occurs in the existing borrow pit area while shrubs such as *Rhus*, *Wiborgia*, *Euryops* and *Eriocephalus* occur on the slope towards the east (Figures 3, 4 & 5). Denser vegetation of *Chrysanthemoides*, *Galenia africana*, 'vygie' succulents and other plants are found on the disturbed ground between the existing quarry and the road (Figure 6). Visibility of archaeological material was reduced in the areas with the dense vegetation. No rocky outcrops where rock art could be found occur in the immediate vicinity of the affected area, but paintings have been recorded on Klipfonteinrand over 2 km to the northwest (Manhire & Patrick, quoted in Samie 2011).





Figure 2: Google earth image showing the proposed extension of the existing borrow pit 107 and the tracks of the field survey. Please note that the straight blue line does not indicate a survey track. The Google earth image is unfortunately not sharp.



Figures 3 and 4: Pit 107 – view across the existing pit area towards the north; view across the proposed extension from the south-eastern corner of the affected area.



Figures 5 and 6: Pit 107 – view up the slope towards the eastern fence; denser vegetation in the western area between the road and the existing quarry.

**Results of the survey:** No archaeological remains of any sort were observed.

### **5.3 Borrow pit DR2262/11.13/L/100 (Vidamemoria pit no. 108)**

**Approximate area:** 17 000m<sup>2</sup>

**Location:** S 32° 8' 14.97" E 19° 11' 3.41"

**Farm name and number:** No 586 (Mertenhof)

**Environment:** The proposed extension lies alongside the existing borrow pit which is located on private land in the Biedouw Valley, close to the foot of the Uitkyk Pass (Figures 8, 10). The DR2262 forms the western boundary of the site and the existing pit, filled with water at present, is close to the eastern limit of the polygon (Figure 7). Coarse gravelly colluvium covers most of the affected area. Scattered sandstone blocks occur in some areas (Figure 10). The colluvium overlies weathered, thinly-bedded mudrock which is slightly ferruginised in places. Large blocks of sandstone and sand from elsewhere have been dumped on the north-eastern side of the existing pit. Grasses, bulbs and isolated shrubs are found across most of the affected area which is currently used for cattle grazing (Figures 9 and 10). The grass was fairly luxuriant as a result of the recent rains, so visibility of archaeological material on the ground was somewhat limited in the patches covered by it. The site itself is fairly flat-lying, sloping only very gently to the south. There are no rocky outcrops in the immediate vicinity of the proposed extension, but a rocky cliff and slope with large boulders, all potential rock art sites, lie less than 1 km to west (Figure 8). Rock paintings have been recorded along the Biedouw River which lies about 1.5 km to the south (Manhire & Patrick, quoted in Samie 2011).





Figure 7: Google earth image showing the proposed extension of the existing borrow pit 108 and the tracks of the field survey. Please note that the straight blue lines do not indicate survey tracks.

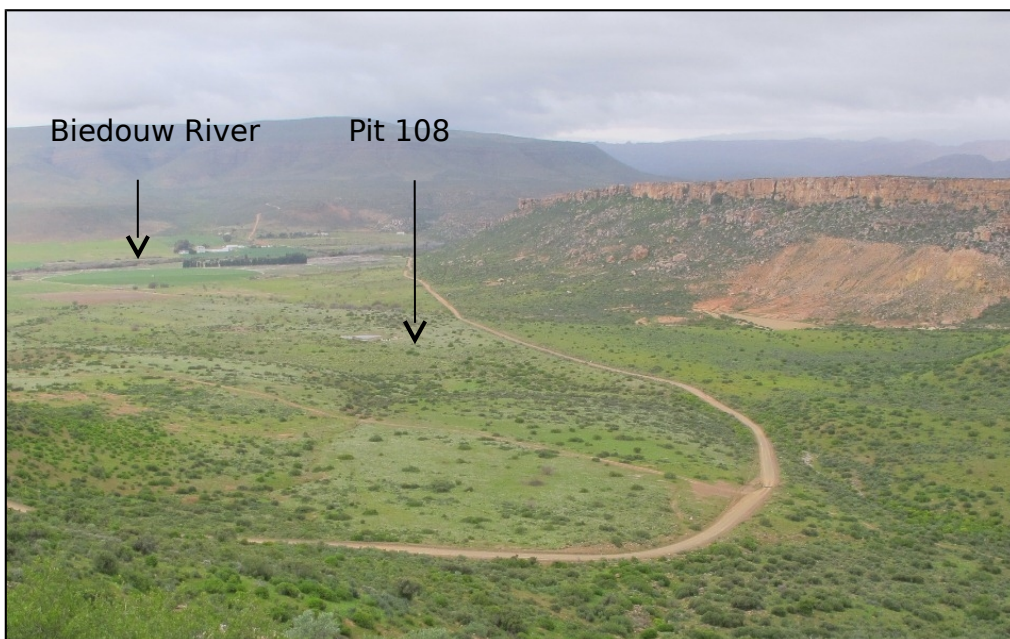


Figure 8: Pit 108 – southwards view of the Biedouw Valley from the Uitkyk Pass to the north. The Biedouw River is approximately 1.5 km south of the proposed pit extension.



Figures 9 and 10: Pit 108 – view across the affected area towards the south-east with the existing pit located beyond the tree on the left of the photo; view across the site towards the Uitkyk Pass. Scattered sandstone blocks are visible in the foreground.

**Results of the survey:** No archaeological remains were observed on the ground of the affected area. If there are any rock paintings on the nearby cliff and rocky slope they should be far enough away not to be directly affected by quarrying activities.

#### 5.4 Borrow pit DR2262/16.42/L/50 (Vidamemoria pit no. 109)

**Approximate area:** 16 000m<sup>2</sup>

**Location:** S 32° 10' 34.98" E 19° 10' 36.98"

**Farm name and number:** No 586 (Mertenhof)

**Environment:** The greater part of the proposed extension lies to the southwest and east of an existing pit, presently filled with water, which is located on private land next to the DR2262 between the Biedouw Valley and Wuppertal. The road forms the western boundary and a small stream limits expansion to the northeast (Figure 11). A larger area than the designated polygon was in fact surveyed. The surface of the affected area is covered by cobbly, gravelly colluvium. The cobbles are subrounded sandstone while the gravel consists of fine to coarse sandstone and mudrock (Figures 12, 14, 15). In some areas these soils are slightly ferruginised. The transported soils are underlain by weathered, thinly-bedded mudrock (Figure 15). The land is used for occasional grazing for cattle. The existing pit is un-vegetated while short grasses and shrubs such as *Rhus*, *Nylandtia*, *Lycium* and



*Elytropappus* occur across the rest of the site (Figures 12, 13). The visibility of archaeological material on the ground was good in spite of the grass covering. Although there may be rock paintings in the cliffs to the east of the affected area, no obvious overhangs were visible. Rock art sites have been recorded along the Biedouw/Heuningvlei River about 1.5 km to the northwest of the proposed extension (Manhire & Patrick, quoted in Samie 2011).



Figure 11: Google earth image showing the proposed extension of the existing borrow pit 109 and the tracks of the field survey. Please note that the straight blue lines do not indicate survey tracks.



Figures 12 and 13: Pit 109 – view towards the south-east from the south-western edge of the existing pit; view towards the north with the existing pit in the middle ground. The sparse covering of fresh grass does not impede archaeological visibility.



Figures 14 and 15: Pit 109 – view towards the southwest showing scattered, unflaked sandstone blocks; section in the existing pit wall showing the infilling channel with layer of larger sandstone blocks overlying weathered mudrock. The ruler is approximately 15cm in length.

**Results of the survey:** Although chunks and small blocks of quartzite suitable for the manufacture of stone artefacts were observed, none of them showed any signs of flaking. No other archaeological remains were observed.

## 6. SIGNIFICANCE AND RECOMMENDATIONS

No archaeological remains were observed at any of the proposed extensions even though many archaeological sites, particularly rock art sites, have been recorded in the northern Cederberg. No rocky outcrops were located in the immediate vicinity of the affected areas so there is unlikely to be any direct impact on painting sites if the proposed extensions are developed. The affected sites themselves are thus considered to be of low archaeological heritage significance, although the surrounding area provides a significant context.

No further archaeological studies or mitigation are recommended for these particular pits as there will be no direct impact on archaeological heritage resources at the affected sites.

If any human remains are found during the development of the proposed pits, work in that area must cease and the South African Heritage Resources Agency (SAHRA) must be notified immediately.

## 7. REFERENCES

Deacon, J. 1994. Some views on rock paintings in the Cederberg. Cape Town. National Monuments Council.

Halkett, D., Hart, T., Manhire, A. & Morris, D. 1997. Olifants/Doring River Basin Study: An initial assessment of the impact of dam construction on heritage sites. Unpublished report prepared for Ninham Shand Consulting Engineers. Archaeology Contracts Office.

Maggs, T. M. O'C. & Sealy, J. 1983. Elephants in boxes. The South African Archaeological Society Goodwin Series 4: 44-48..

Manhire, A. 1998. The role of handprints in the rock art of the South-western Cape. South African Archaeological Bulletin 53: 98-108.

Manhire, A., Parkington, J. & Van Rijssen, W. 1983. A distributional approach to the interpretation of rock-art in the south-western Cape. The South African Archaeological Society Goodwin Series 4: 29-33.

Orton, J & Hart, T. 2005. Heritage Impact Assessment The proposed raising of the Clanwilliam Dam wall, Olifants River Valley, Clanwilliam District. Unpublished report prepared for Ninham Shand Consulting (Pty) Ltd. Archaeology Contracts Office.

Parkington, J. 1980. Time and place: some observations on spatial and temporal patterning in the Later Stone Age sequence in Southern Africa. South African Archaeological Bulletin 35: 73-83.

Parkington, J. 2003. Cederberg Rock Paintings. Cape Town. Krakadouw Trust.

Samie, Q. 2011. Notification of Intent to Develop (NID) form submitted to Heritage Western Cape. Vidamemoria Heritage Consultants reference number 50.

Yates, R., Golson, J. & M. Hall. 1985. Trance performance: the rock art of Boontjieskloof and Sevilla. South African Archaeological Bulletin 40:70-80.



Yates, R. & Manhire, A. 1991. Shaminism and rock paintings: aspects of the use of rock art in the south-western Cape, South Africa. South African Archaeological Bulletin 46: 3-11.

## **8. ACKNOWLEDGEMENTS**

Ms Quahnita Samie of Vidamemoria Heritage Consultants is thanked for commissioning this study and providing background information. Dr John Almond, Natura Viva cc, made helpful comments on the draft. Dr M Galimberti (SAHRA) kindly provided a copy of the Olifants/Doring River Basin Study report.